

Range Extensions of Three Species of Teredinidae

(Mollusca : Bivalvia)

Along the Pacific Coast of America

BY

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ONLY A FEW SPECIES of Teredinidae have been reported on the Pacific Coast of Mexico. According to what has been clearly stated by TURNER (1966) this might reflect the poorness of the local fauna or be an indication of the lack of work on this group of animals in the area.

The coast of Sinaloa, Mexico, mainly consists of sandy beaches, occasionally interrupted by river mouths, lagoon inlets or esteros. Areas of rocky shore are scattered and of little extent. During the rainy season, from July to October, river discharge into the ocean is considerable and large amounts of dead wood, ranging from small twigs to entire trunks, are eventually deposited in the coastal zone, some of them being trapped at the edge of the esteros and lagoons and on the banks of rivers. Rotted wood is frequently dredged up in the subtidal zone along the coastline and is also occasionally washed up on the beaches.

In the course of 1978 and 1979, pieces of rotting wood of various sizes were found in the area of Mazatlán, Sinaloa, Mexico, and examined for shipworms. The present paper deals with the results obtained from those observations and reports range extensions for 3 species of Teredinidae.

Teredo (Teredo) bartschi Clapp, 1923

Previous Distribution: Although it used to be a species restricted to the Caribbean, it has recently been reported by R. Turner (KEEN, 1971) at La Paz, Baja California Sur, Mexico.

New Record: El Tanque Canal, Caimanero Lagoon, Sinaloa, Mexico.

Two specimens were collected in a partly submerged dead trunk on the edge of an artificial canal connecting

the Caimanero Lagoon to the open sea through an estero (Estero Agua Dulce). Salinity at the time of sampling was 33‰. Previous studies (MENZ, 1976; PAUL, 1977) have shown variations in salinity in this area to be quite large (11 to 48‰). The total lengths of the animals collected were 12.5 and 17.6 mm, respectively, and mature larvae were found in the brood pouch of the larger specimen, which demonstrates that the organisms were in favourable reproductive condition. *Teredo (Teredo) bartschi* might thus be able successfully to colonize this area if environmental conditions for spawning, survival and settlement of the larvae were advantageous.

The present note extends the distributional range of this species to continental Mexico and confirms the penetration of this teredinid into Pacific tropical waters.

Several young and partly damaged specimens, probably of the same species, were collected 3 months later, after a storm, in a piece of dead wood washed ashore 30 km north of Mazatlán. The same piece of wood was also heavily infested by *Martesia fragilis* Verrill & Bush, 1898.

Bankia (Neobankia) zeteki Bartsch, 1921

Previous Distribution: Canal Locks, Balboa and Canal Zone, Panama (TURNER, 1966). Also reported at Puerto Armuelles, on the Pacific Coast of Panama (CLENCH & TURNER, 1946; KEEN, 1971).

New Record: Off Teacapán, Sinaloa, Mexico.

The present record extends the distribution of this species northward to the area off Teacapán, representing a considerable extension of its previously known range (about 3500 km) along the Pacific Coast of America. Three large specimens (46.6 to 54.2 mm total length) were found in a piece of rotten wood dredged up by a shrimp boat

trawling a few kilometers off the coast. The trawling depth has been estimated as at least 12 m.

Bankia (Neobankia) destructa Clench & Turner, 1946

Previous Distribution: La Cieba, Honduras (TURNER, 1966) and Eastern Panama (KEEN, 1971). Caribbean species.

New Record: El Tanque Canal, Caimanero Lagoon, Sinaloa, Mexico.

The present record is the first of this species on the Pacific side of America. This fully confirms the prediction of R. Turner (KEEN, 1971) who considered this species as a possible candidate to pass through the Panama Canal.

Environmental conditions were similar as for *Teredo bartschi* as the only specimen of *Bankia destructa* (20.5 mm total length) was found in the same trunk.

TURNER (1966) discussed the problems of deciding whether new records represent established fauna or chance occurring individuals from other areas. The latter case applies in the present study only to the damaged juvenile specimens of probably being *Teredo bartschi* collected north of Mazatlán. Indeed, observation of the log dredged off Teacapán and of the dead trunk found in El Tanque Canal showed that they had obviously been there for a long time. Moreover, the presence of mature larvae of *T. bartschi* could signify an important step towards colonization of the area by the species. The presence of *Bankia destructa* and *B. zeteki* along the coast of Sinaloa clearly demonstrates the dispersal potential of shipworms from the Caribbean through the Panama Canal and along the Pacific Coast of America. This was discussed by KEEN

(1971) who listed 10 species of Teredinidae previously reported in the Caribbean that could possibly (according to Turner) be dispersed in the Panamic province. *Bankia destructa*, included in that list, as well as *B. zeteki*, have been shown in this study to possess the capability to occupy more northern latitudes than previously thought possible, as does *Bankia (Neobankia) orcutti* Bartsch, 1923 reported from Bahía Bacochibampo in the Gulf of California. Including this last species and *Bankia (Bankiella) gouldi* (Bartsch, 1908), there are now 4 members of the genus *Bankia* reported from the Pacific waters of Mexico.

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Literature Cited

- GLENN, WILLIAM JAMES & RUTH DIXON TURNER
1946. The genus *Bankia* in the Western Atlantic. *Johnsonia* 2 (19): 1-28
- KEEN, A. MYRA
1971. Sea shells of tropical West America: marine mollusks from Baja California to Peru, 2nd ed. Stanford Univ. Press, Stanford, Calif i-xiv + 1064 pp.; ca. 4000 text figs.; 22 col. pls. (21 September 1971)
- MENZ, ANDREW
1976. Bionomics of penaeid shrimps in a lagoon complex on the Mexican Pacific coast. Ph. D. Thesis, Univ. Liverpool, 145 pp.
- PAUL, RICHARD
1977. Bionomics of crabs of the genus *Callinectes* (Portunidae) in a lagoon complex on the Mexican Pacific coast. Ph. D. Thesis, Univ. Liverpool, 136 pp.
- TURNER, RUTH DIXON
1966. A survey and illustrated catalogue of the Teredinidae. *Mus. Comp. Zool. Harvard*, 265 pp.; 64 pls.

